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iPads for Autism: A report on the development and efficacy of a new educational app for young children

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iPads for Autism

A report on the development and efficacy
of a new educational app for young
children

Sue Fletcher-Watson
Sean Hammond
Alice Humphry
Helen Pain
Helen McConachie
Anne O'Hare



Outline & Context

- ◆ Background
- ◆ Click-East development
- ◆ Click-East RCT
- ◆ Future research directions

Background

- ◆ Development of social attention
 - ◆ Attention to people
 - ◆ Following gaze and pointing
 - ◆ Foundation of social and communication skills

Design and Pilot Process

- ◆ Classroom-based participatory design
 - ◆ Building pictures: familiar versus exotic? People, animals, objects?



Design and Pilot Process

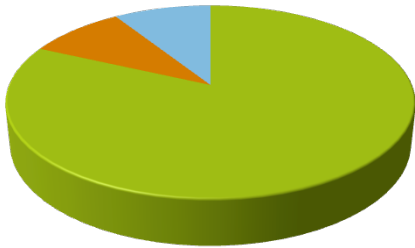
- ◆ Classroom-based participatory design
 - ◆ Building pictures: familiar versus exotic? People, animals, objects?
- ◆ Pilot tests: playgroups, nurseries, homes
 - ◆ Best motivation techniques
 - ◆ Accessible to non-verbal / very young children
 - ◆ Familiarity / repetition
- ◆ Advisors: teachers, parents, therapists, adults with ASD
 - ◆ Use-ability, family-friendly, trial design
- ◆ Expert input: LaerLab, Steering Group
 - ◆ Interface, structure, data recording

Fletcher-Watson, Hammond & Pain, in prep, JADD

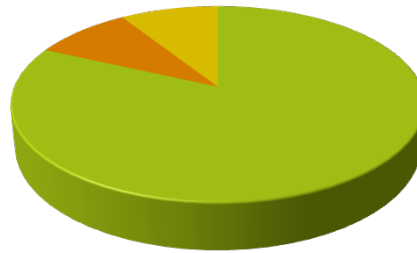
The App: what do parents think?

What did you think of the app?

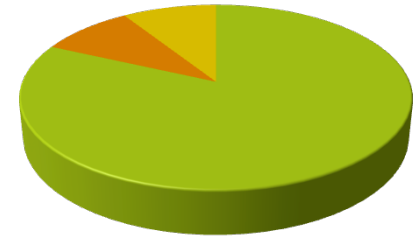
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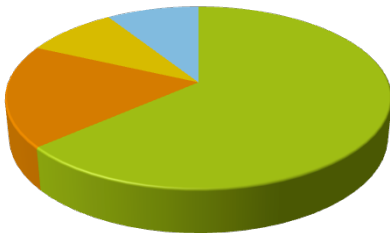
Easy to play



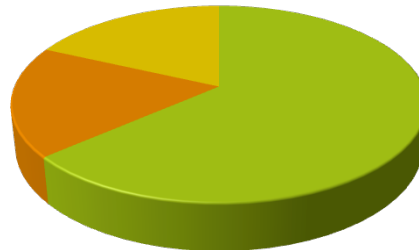
Accessible



Appealing



Fun



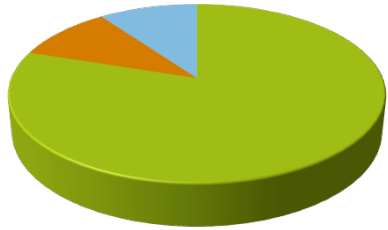
Attractive



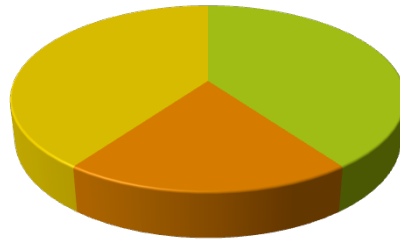
The App: what do parents think?

Do you think your child...

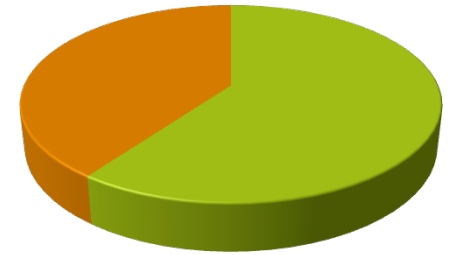
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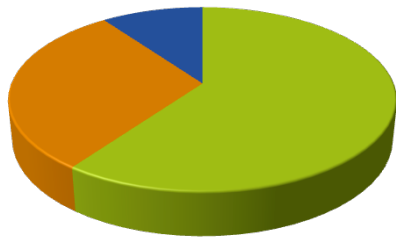
Enjoyed playing



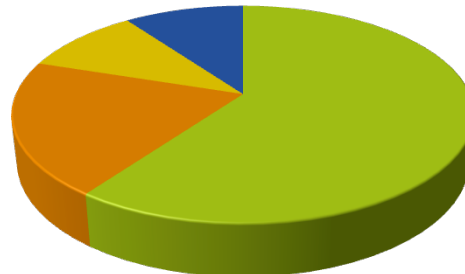
Learnt something new



Played for > 5mins



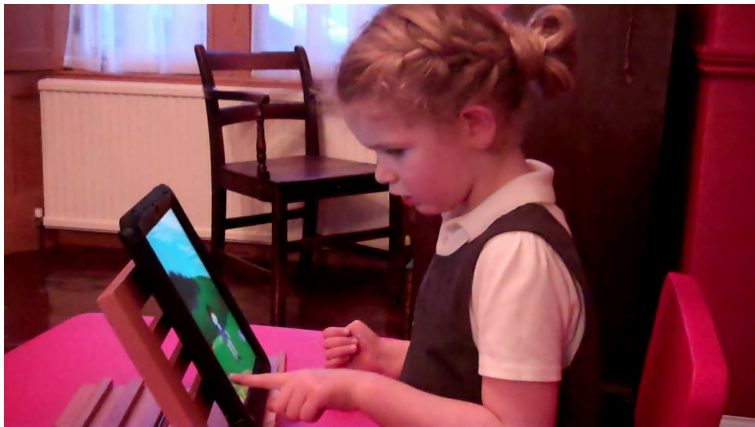
Easily understood



Benefitted



The App: what do parents think?



I wasn't sure if he would like it at first but he LOVES it! It is one of the few apps he wants to play every time he has the iPad!

...we were very impressed by the uncluttered screen, and the gentle, calm tone. Veronica loves apps she can figure out for herself ...

as soon as she sees the iPad come out she sits next to me ... and wants to play this game. I have enjoyed watching her have longer periods of concentration with this game. very well made, simple yet effective!

...he will often just go and click on the app when he wants some "chill out" time....

The App: is it really any good?

- ◆ Randomised controlled trial
 - ◆ 60 families: intervention now or later
 - ◆ Assessed before and after intervention period, plus at six month follow-up
 - ◆ ADOS, MCDI, ADOS-C, parent feedback
 - ◆ Expected completion: June 2013
- ◆ Early data
 - ◆ 9 participants have completed the intervention phase
 - ◆ Average game play of 13 hours over two months = 13 mins daily
 - ◆ Positive impact on family life
 - ◆ Signs of behavioural changes in pointing and vocabulary

Moving forward: AWARE

AWARE: Autism Software, how to get it out there

- ◆ One day event in Edinburgh
- ◆ Input from academics, parents, teachers and industry
- ◆ Knowledge Transfer funding bid: app development
- ◆ CASE studentship: human-computer interaction and learning in autism
- ◆ Clinical trialing of all new output

<http://www.clickeast.co.uk/about/software-for-autism-event>

Interface3

Smart MultiTouch Solutions

Questions & feedback?

www.clickeast.co.uk